Project Proposal For Armadillo Island

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Our first choice is the phylogenetic program that we will be doing with David Taylor in the Biology department. The problem that the project is based on is a gap in updated software for doing phylogenetic analysis. The current program that Dr. Taylor uses has been in beta since 1996, and it also only runs on pre-OSX macintosh, MS-DOS, and Windows versions up to XP (although not too well). There is also a functionality gap in these types of programs that Dr. Taylor faces and could be fixed from having an updated program that addresses these gaps.

Our approach will be to implement subsets of the PAUP program that will serve Dr. Taylor's purposes in his research and with his classes here at IUS. If this turns out to be a relatively easy venture, then we will then seek to implement the full phylogenetic program with similar functionality to PAUP and other programs like it. The majority of the work in doing this is implement GUI features that perform the necessary operations to perform the appropriate analysis on taxon data.

The impact of this program can be rather significant for researchers and students that rely on phylogenetic analysis. PAUP is considered one of the top programs in the field, and providing an upgraded replacement that has comparable functionality will greatly increase the ability of these users to be productive.

Our second choice is summarized below:

IMMERSIVE, EFFICIENT LEARNING THROUGH CURATED SEARCH

Problem:
When people want to learn about a particular topic/subject, they resort to straight/basic Google searching. It is often upto them to sort what is credible, useful, and efficient in the newbie learning process.Whether it's digital photography (covering everything from lens aperture, focal length, shutter speed, and ISO settings) orwoodworking (hand tools, power tools, techniques), or basic web development (HTML, CSS, scripting, tools), there is aplethora of free information for seekers but no efficient consolidation of it all in one place.
Impact:
Users of the app – searchers/newbies to certain subjects or topics – can peruse and learn through curated, consolidatedsearch result collections. This concentrated immersion into various teachable topics through publicly accessibleinformation – in easily consumable format and pleasant, modern design - eliminates a sort of Tetris-Failure effect inDIY/self-taught learning (mistimed, misplaced knowledge).Beginners/Amateurs often make mistakes in learning – due to both poor content andtiming – but by leveraging the BIG-picture vision of curators who have a

grasp on thebest flow of material, newbies can be sure that they don’t miss any key points in their
early learning.
click to see animation.
Approach:
Create an app (Universal – mobile and desktop) for Curators and Searchers with a different UI for each user type. Curatorswould pull content (text/media/interactions) from different sources (in Wikipedia-like fashion, w/ references) and present itby topic. The curated learning material can then be pulled into a consolidated, modern-format presentation and be ratedby the community.All content would follow a universal style/format, geared for easy-learning. Organization is critical, so easy to understandlayouts/outlines of the information would also be crafted (automatically). Curators can also acquire a following/reputationaccording to user reviews/ratings. As multiple curations form, users have more and more collections to pick from.